

	Type	L #	Hits	Search Text	DBs	Time Stamp
1	BRS	L1	39717	(build or built or building or construct or constructed or constructing or construction or generate or generated or generating or generation or design or designed or designing or define or defined or defining or definition or format or formatted or formatting or layout or laid or laying or template or arrange or arranged or arrangement or arranging) near5 (label or labeling or tag or sticker)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB; USOCR	2003/06/30 16:18
2	BRS	L2	6499	(color or palette) near5 (label or labeling or tag or sticker)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB; USOCR	2003/06/30 16:18
3	BRS	L3	300	2 near5 (designate or designated or designating or designation or design or designed or designing or define or defined or defining or definition)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB; USOCR	2003/06/30 16:18
4	BRS	L4	194	1 same 3	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB; USOCR	2003/06/30 16:18
5	BRS	L5	22178	(size or shape or style or styling attribute or content or appearance) near5 (label or labeling or tag or sticker)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB; USOCR	2003/06/30 16:18
6	BRS	L6	1385	5 near5 (designate or designated or designating or designation or design or designed or designing or define or defined or defining or definition)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB; USOCR	2003/06/30 16:18

	Type	L #	Hits	Search Text	DBs	Time Stamp
7	BRS	L7	1060	1 same 6	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB; USOCR	2003/06/30 16:18
8	BRS	L8	26091	(font or letter or lettering or alphanumeric or number or text) near5 (label or labeling or tag or sticker)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB; USOCR	2003/06/30 16:19
9	BRS	L9	1521	8 near5 (designate or designated or designating or designation or design or designed or designing or define or defined or defining or definition)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB; USOCR	2003/06/30 16:19
10	BRS	L10	988	1 same 9	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB; USOCR	2003/06/30 16:19
11	BRS	L11	36778	(rotate or rotated or rotating or rotation or rotational or translate or translated or translating or translation or orientation or orientate or orientated or orientating or locate or located or location or location or position or positioned or positioning) near5 (label or labeling or tag or sticker)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB; USOCR	2003/06/30 16:20
12	BRS	L12	1742	11 near5 (designate or designated or designating or designation or design or designed or designing or define or defined or defining or definition)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB; USOCR	2003/06/30 16:20
13	BRS	L13	1236	1 same 12	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB; USOCR	2003/06/30 16:20

	Type	L #	Hits	Search Text	DBs	Time Stamp
14	BRS	L14	19870	(code or bar or barcode) near5 (label or labeling or tag or sticker)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB; USOCR	2003/06/30 16:20
15	BRS	L15	853	14 near5 (designate or designated or designating or designation or design or designed or designing or define or defined or defining or definition)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB; USOCR	2003/06/30 16:20
16	BRS	L16	551	1 same 15	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB; USOCR	2003/06/30 16:20
17	BRS	L17	26724	(print or printing or printed) near5 (label or labeling or tag or sticker)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB; USOCR	2003/06/30 16:21
18	BRS	L18	360	(4 or 7 or 10 or 13 or 16) same 17	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB; USOCR	2003/06/30 16:21
19	BRS	L19	173	(3 or 6) near5 (font or letter or lettering or alphanumeric or number or text)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB; USOCR	2003/06/30 16:21
20	BRS	L20	194	12 near5 (font or letter or lettering or alphanumeric or number or text or code or bar or barcode)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB; USOCR	2003/06/30 16:21
21	BRS	L21	37	18 and (19 or 20)  <i>Scanned Ti, Ab. Kwic all</i>	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB; USOCR	2003/06/30 16:22

	Type	L #	Hits	Search Text	DBs	Time Stamp
22	BRS	L22	305	("9714117" or "5778076" or "5801944" or "6208980").pn. or ((@pd<=19710101 not @pd<=19470101) and (40/299.01 or 40/625 or 40/638 or 283/81 or 705/1 or 705/400 or 705/408).cccls.) <i>Scanned to all</i>	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB; USOCR	2003/06/30 16:46

	Document ID	Issue Date	Inventor	Current OR	Current XRef	Pages
1	EP 574657 A2	19931222	OGURA, WATARU C O CHINON INDUST et al.			100
2	US 6565607 B1	20030520	Cox, Kenneth C.	715/500	358/1.18; 715/513; 715/517	35
3	US 6428640 B1	20020806	Stevens, Timothy A. et al.	156/64	156/215; 156/DIG.6; 283/98	9
4	US 6056195 A	20000502	Spain, Wanda Huddins	235/432	235/487; 235/494; 358/1.18	10
5	US 5621864 A	19970415	Benade, Daniel A. et al.	358/1.18	715/500	25
6	US 5559934 A	19960924	Ogura, Wataru et al.	358/1.18	358/1.11; 400/61; 400/83	81
7	US 5544287 A	19960806	Roth, Mark W.	358/1.15	358/1.1	34
8	US 5448685 A	19950905	Ogura, Wataru et al.	358/1.18	358/1.2; 358/1.9; 715/508	89
9	US 4939674 A	19900703	Price, Macy J. et al.	358/1.9	101/93.04; 101/93.4; 283/37; 283/81; 358/1.18; 715/507; 715/520	17

L21 results

	Document ID	Issue Date	Inventor	Current OR	Current XRef	Pages
10	US 4718784 A	19880112	Drisko, James E.	400/68	101/288; 101/93.04; 358/1.18; 400/63; 715/508; 715/515; 715/520	23

L21 results

# DIALOG 30 JUNE 2003

File 2:INSPEC 1969-2003/Jun W4 (c) 2003 Institution of Electrical Engineers  
 File 9:Business & Industry(R) Jul/1994-2003/Jun 27 (c) 2003 Resp. DB Svcs.  
 File 15:ABI/Inform(R) 1971-2003/Jun 30 (c) 2003 ProQuest Info&Learning  
 File 16:Gale Group PROMT(R) 1990-2003/Jun 30 (c) 2003 The Gale Group  
 File 20:Dialog Global Reporter 1997-2003/Jun 30 (c) 2003 The Dialog Corp.  
 File 35:Dissertation Abs Online 1861-2003/Jun (c) 2003 ProQuest Info&Learning  
 File 65:Inside Conferences 1993-2003/Jun W5 (c) 2003 BLDSC all rts. reserv.  
 File 99:Wilson Appl. Sci & Tech Abs 1983-2003/May (c) 2003 The HW Wilson Co.  
 File 148:Gale Group Trade & Industry DB 1976-2003/Jun 26 (c)2003 The Gale Group  
 File 160:Gale Group PROMT(R) 1972-1989 (c) 1999 The Gale Group  
 File 233:Internet & Personal Comp. Abs. 1981-2003/May (c) 2003 Info. Today Inc.  
 File 256:SoftBase:Reviews,Companies&Prods. 82-2003/Jun (c)2003 Info.Sources Inc  
 File 275:Gale Group Computer DB(TM) 1983-2003/Jun 27 (c) 2003 The Gale Group  
 File 347:JAPIO Oct 1976-2003/Feb(Updated 030603) (c) 2003 JPO & JAPIO  
 File 348:EUROPEAN PATENTS 1978-2003/Jun W04 (c) 2003 European Patent Office  
 File 349:PCT FULLTEXT 1979-2002/UB=20030626,UT=20030619 (c) 2003  
 WIPO/Univentio  
 File 474:New York Times Abs 1969-2003/Jun 27 (c) 2003 The New York Times  
 File 475:Wall Street Journal Abs 1973-2003/Jun 26 (c) 2003 The New York Times  
 File 476:Financial Times Fulltext 1982-2003/Jun 30 (c) 2003 Financial Times Ltd  
 File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13 (c) 2002 The Gale Group  
 File 610:Business Wire 1999-2003/Jun 30 (c) 2003 Business Wire.  
 File 613:PR Newswire 1999-2003/Jun 30 (c) 2003 PR Newswire Association Inc  
 File 621:Gale Group New Prod. Annou.(R) 1985-2003/Jun 26 (c) 2003 The Gale Group  
 File 624:McGraw-Hill Publications 1985-2003/Jun 30 (c) 2003 McGraw-Hill Co. Inc  
 File 634:San Jose Mercury Jun 1985-2003/Jun 28 (c) 2003 San Jose Mercury News  
 File 636:Gale Group Newsletter DB(TM) 1987-2003/Jun 25 (c) 2003 The Gale Group  
 File 810:Business Wire 1986-1999/Feb 28 (c) 1999 Business Wire  
 File 813:PR Newswire 1987-1999/Apr 30 (c) 1999 PR Newswire Association Inc  
 File 6:NTIS 1964-2003/Jun W5 (c) 2003 NTIS, Intl Cpyrght All Rights Res  
 File 7:Social SciSearch(R) 1972-2003/Jun W4 (c) 2003 Inst for Sci Info  
 File 8:Ei Compendex(R) 1970-2003/Jun W4 (c) 2003 Elsevier Eng. Info. Inc.  
 File 34:SciSearch(R) Cited Ref Sci 1990-2003/Jun W4 (c) 2003 Inst for Sci Info  
 File 94:JICST-EPlus 1985-2003/Jun W4 (c)2003 Japan Science and Tech Corp(JST)  
 File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec (c) 1998 Inst for Sci Info

Set	Items	Description
S1	136658	(BUIL???? OR CONSTRUCT???? OR GENERAT???? OR DESIGN??? OR DEFIN???? OR DEFINITION OR FORMAT???? OR LAYOUT OR LAID OR LAYING OR TEMPLATE?? OR ARRANG?????) (5N) (LABEL???? OR TAG?? OR STICKER??)
S2	13515	(COLOR OR PALETTE) (5N) (LABEL???? OR TAG?? OR STICKER??)
S3	613	S2 (5N) (DESIGNAT???? OR DESIGN???? OR DEFIN?????)
S4	462	S1 (S) S3
S5	43131	(SIZE OR SHAPE OR STYLE OR STYLING OR ATTRIBUTE OR CONTENT OR APPEARANCE) (5N) (LABEL???? OR TAG?? OR STICKER??)
S6	1946	S5 (5N) (DESIGNAT???? OR DESIGN???? OR DEFIN?????)
S7	1486	S1 (S) S6
S8	58178	(FONT OR LETTER OR LETTERING OR ALPHANUMERIC OR NUMBER OR TEXT) (5N) (LABEL???? OR TAG?? OR STICKER??)
S9	1787	S8 (5N) (DESIGNAT???? OR DESIGN???? OR DEFIN?????)
S10	1303	S1 (S) S9
S11	47444	(ROTAT???? OR ROTATIONAL OR TRANSLAT???? OR ORIENTAT???? OR LOCAT???? OR POSITION????) (5N) (LABEL???? OR TAG?? OR STICKER??)
S12	1403	S11 (5N) (DESIGNAT???? OR DESIGN???? OR DEFIN?????)
S13	1066	S1 (S) S12
S14	40291	(CODE OR BAR OR BARCODE) (5N) (LABEL???? OR TAG?? OR STICKER??)
S15	2286	S14 (5N) (DESIGNAT???? OR DESIGN???? OR DEFIN?????)
S16	1764	S1 (S) S15
S17	73770	PRINT???? (5N) (LABEL???? OR TAG?? OR STICKER??)
S18	1242	(S4 OR S7 OR S10 OR S13 OR S16) (S) S17
S19	208	(S3 OR S6) (5N) (FONT OR LETTER OR LETTERING OR ALPHANUMERIC OR NUMBER OR TEXT)
S20	108	S12 (5N) (FONT OR LETTER OR LETTERING OR ALPHANUMERIC OR NUMBER OR TEXT OR CODE OR BAR OR BARCODE)
S21	37	S18 AND (S19 OR S20)
S22	29	RD S21 (unique items) [Scanned ti,kwic all]



PUB-NO: EP000574657A2

DOCUMENT-IDENTIFIER: EP 574657 A2

TITLE: Label printing apparatus and wordprocessor.

PUBN-DATE: December 22, 1993

INVENTOR-INFORMATION:

NAME	COUNTRY
OGURA, WATARU C O CHINON INDUST	JP
KAWAGOE, YOSHITO C O CHINON IND	JP
TAKIZAWA, SATORU C O CHINON IND	JP
TEKEUCHI, YASUO C O CHINON INDU	JP
OKIMURA, KIMIHIKO C O CHINON IN	JP
YOSHIDA, HIROSHI	JP
KOBAYASHI, ATSUSHI C O CHINON I	JP
OGURA, NOBORU C O CHINON INDUST	JP
ARIOKA, KENJI C O KOKUYO KABUSH	JP

INT-CL (IPC): G06F015/20

EUR-CL (EPC): B41J003/46 ; B41J003/407, G06F017/21 , G06F017/21 , G06F017/25

ABSTRACT:

CHG DATE=19990617 STATUS=O> A label printing apparatus includes a liquid crystal display unit for displaying an input character string and a message corresponding to each operation stage, a printing unit for printing a character string on each label, a storage unit for storing each data, and a CPU for performing each processing and control. Label information specifying sizes and the like of various types of labels, sheet numbers corresponding to the label information, character size information defining character sizes, and the like are stored in the storage unit. The CPU specifies label information corresponding to the sheet number and selects a maximum printable character size from a character size table as an initial value on the basis of a printing area. The character size is changed so that the horizontal length of an input character string falls within the printing area. The character size is further changed so that all the characters of the character string extending in all the lines fall within the printing area. An optimal character size is finally selected, and actual printing is performed on each label using this character size.

<IMAGE>

US-PAT-NO: 4718784

DOCUMENT-IDENTIFIER: US 4718784 A

TITLE: Rating plate printing apparatus and method

DATE-ISSUED: January 12, 1988

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
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Drisko; James E.	Santa Rosa	CA	N/A	N/A
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US-CL-CURRENT: 400/68, 101/288 , 101/93.04 , 358/1.18 , 400/63 , 715/508 , 715/515 , 715/520

**ABSTRACT:** Printing apparatus and method for printing label designs on blank labels, where the blank labels are organized in rows of one or more labels per row. The apparatus includes a dot matrix impact printer with a resolution of at least 100 pixels per inch. The printer has both a text and a graphics printing mode of operation. A computer used to control the printing process stores label designs and graphic images in its memory. Each label design specifies one or more text strings, their position in the label, and one or more graphic images, and their position in the label. Text and graphic images can be positioned side by side.

The user specifies the identity and quantity of labels to be printed, the order in which to print the labels, and the number of blank labels there are in each row of labels to be printed. Each label contains a multiplicity of lines to be printed. The printing process proceeds by positioning the printer at the beginning of a row of blank labels. The computer then generates a list of the label designs to be printed on the current row of blank labels. For each such line to be printed, the computer generates a list of the text strings and graphic images to be printed, along with information on where each item is to be printed. For each graphic image on this line, the computer selects the portion of the graphic image to be printed on the current line. Then the computer sends the printer commands to print the items in the list in accordance with the positioning information in the list, including sending commands to print the text strings in text mode and the graphic images in graphics mode.

10 Claims, 13 Drawing figures

Exemplary Claim Number: 4

Number of Drawing Sheets: 12

----- KWIC -----

**Abstract Text - ABTX (1):** Printing apparatus and method for printing label designs on blank labels, where the blank labels are organized in rows of one or more labels per row. The apparatus includes a dot matrix impact printer with a resolution of at least 100 pixels per inch. The printer has both a text and a graphics printing mode of operation. A computer used to control the printing process stores label designs and graphic images in its memory. Each label design specifies one or more text strings, their position in the label, and one or more graphic images, and their position in the label. Text and graphic images can be positioned side by side.

**Brief Summary Text - BSTX (16):** The need to accommodate conventional label designs and the small size of most rating plates make it important to be able to print both graphics and text side

by side. At the same time, it is important to be able to print labels reasonably quickly. The problem here is that impact printers are generally much slower when printing graphics than when printing text. Therefore converting the entire label into a graphics image is not an acceptable solution, because it would make printing too slow. On the other hand, switching back and forth between graphics and text printing modes presents a number of other problems which are described, along with their solution, below.

Brief Summary Text - BSTX (20): It is therefore a primary object of the present invention to provide an improved label printing apparatus and method that permits the design and printing of rating plates and other labels with a variety of features including the printing of text and high resolution graphics side by side, and interleaved printing of different labels.

Brief Summary Text - BSTX (22): In summary, the present invention is a printing apparatus and method for printing label designs on blank labels, where the blank labels are organized in rows of one or more labels per row. The apparatus includes a dot matrix impact printer with a resolution of at least 100 pixels per inch. The printer has both a text and a graphics printing mode of operation. A computer used to control the printing process stores label designs and graphic images in its memory. Each label design can specify one or more text strings, their position in the label, and one or more graphic images, and their position in the label. Text and graphic images can be positioned side by side.

Detailed Description Text - DETX (8): A "label design" is the specification for a label. It defines all the element of the label: the dimensions of the label, the label's text strings, where the text strings are positioned, what size type to use, when to use bold print, and the placement of other special label features including boxes, bar code sequences, serial numbers, and graphic images.

Detailed Description Text - DETX (9): The system 20 can store a multiplicity of label designs. Each label design is stored in a separate file, called a label design file 40. For convenience the label design files are identified as LF1 to LF<sub>n</sub> where n is the number of label designs currently stored in the system 20. These files are stored on disk 28. A copy of the file, however, is stored in RAM 30 when the corresponding label designs are being modified or printed.

Detailed Description Text - DETX (10): As indicated above, each label design file specifies the dimensions of the label to be printed. Typically, labels and rating plates are printed on continuous forms 42 of blank labels 44. Usually, although not always, the blank labels 44 are organized in rows, with a plurality of labels in each row. Therefore, the design file must specify not only the size of the labels to be printed, by also the number of blank labels per row and the horizontal and vertical spacing between labels on the form 42. In the preferred embodiment, the spacing is specified in terms of the horizontal and vertical distances between the top left corners of adjacent blank labels.

Detailed Description Text - DETX (28): In the preferred embodiment, the user can specify that text lines in a label design are to be automatically centered when printed. Lines that mix text with graphic images, or any other feature that uses graphic mode printing, cannot be centered in the

preferred embodiment. Therefore these lines are printed as represented in the label design, i.e., left justified.

Detailed Description Text - DETX (31): The placement of the serial number in the label design is marked by a series of "5C" bytes. When the label is printed, these "5C" bytes are replaced with the current serial number value.

Detailed Description Text - DETX (33): If the current date is to be printed on a label, the label design includes a "10" date code at the position where the date is to be printed. The current date is provided by the user upon system power up or reset.

Detailed Description Text - DETX (42): Graphic images are represented by a block of codes which specify the graphic image file in which the image is stored. The number of codes used corresponds to the width and height of the graphic image, as measured in terms of the number of text characters it would take to occupy the same space. Thus if an image is six characters wide and three text lines high (rounded up), there will be a string of six graphic image codes in each of three consecutive lines in the label design file. Even if the size of the graphic image does not correspond exactly to an integer number of characters, the graphic image is given an amount of space on the printed label equal to the number of text characters coded in the label design.

Detailed Description Text - DETX (56): Then (box 80), if the status of this label design indicates that the label design uses the serial number feature, the serial number in the label design file is incremented (so that the next time the serial number is copied into the Row Queue, the corresponding label has the next serial number). Also, the variable I is incremented and PrintQ.NP.Qty is decremented as part of the process of keeping track of how many labels of each label design have been printed.

Detailed Description Text - DETX (60): Referring to FIG. 8, the XFER GROUP routine for filling the Row Queue 50 in "group" mode is as follows. The Row Queue 50 is cleared, and the routine determines the number of slots in the Row Queue, Q, to be filled (box 76). Q is the lesser of (a) the number of blank labels per row on the blank label form, and (b) the number of labels left to be printed for the first label design identified in the Print Queue 48.

Claims Text - CLTX (5): controlling the printing of said specified label designs by said printer on forms of blank labels having rows of blank labels with a known number of blank labels in each said row, by repetitively performing the steps of

Claims Text - CLTX (25): storing a multiplicity of label designs, each label design specifying one or more text strings and the position of said text strings in said label design, and one or more graphic images and the position of said graphic images in said label, wherein said text and said graphic images can be positioned side by side; and

Claims Text - CLTX (39): controlling the printing of said specified label designs by said printer on forms of blank labels having rows of blank labels with a known number of blank labels in each

said row, by repetitively performing the steps of

Claims Text - CLTX (48): said software includes means for storing said box codes in said label designs to represent lines and boxes in said label designs, and means for commanding said printer to print the corresponding box drawing component text images in text mode.

Claims Text - CLTX (69): said predefined label data structure includes means for specifying that the corresponding label design includes a serial number which increments each time said label design is printed, and means for specifying the position of said serial number in said label design;

Claims Text - CLTX (72): for each label design in said first list which includes a serial number, including in said second list for the line of said label design where said serial number is positioned text corresponding to the current serial number value associated with said label design, and incrementing said serial number value associated with said label design.

US-PAT-NO: 4939674

DOCUMENT-IDENTIFIER: US 4939674 A

**\*\*See image for Certificate of Correction\*\***

TITLE: Label generation apparatus

DATE-ISSUED: July 3, 1990

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Price; Macy J.	Golden	CO	N/A	N/A
Accumanno; Mario B.	Cedar Grove	NJ	N/A	N/A
Johnson; Mack E.	Arvada	CO	N/A	N/A
Acker; Nornam J.	Lakewood	CO	N/A	N/A

US-CL-CURRENT: 358/1.9, 101/93.04 , 101/93.4 , 283/37 , 283/81 , 358/1.18 , 715/507 , 715/520

**ABSTRACT:** The label generation apparatus enables the user to define a label of arbitrary size, shape and characteristics. Each label in a series of labels includes unique indicia that individually identify each label according to any predefined sequence. The label generation apparatus includes a template generation capability that enables the user to define the basic label format having one or more writable indicia fields. These one or more writable indicia fields can be used to provide each label with individual identifying indicia according to any predetermined sequence. The label generation apparatus also includes an indicia generation capability that produces the individual identification according to various characteristics that are specified by the user of this apparatus.

63 Claims, 12 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 5

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Detailed Description Text - DETX (15): The remaining elements on FIG. 1 consist of the control routines 111-114 that are loaded in each of processors 101-1 to 101-n. These control routines are used to construct the database or data file that is used to drive the printer to produce the labels desired by the user. These control routines include user interface 114 which is a routine to interface the label generation apparatus in user friendly fashion with the user at the keyboard and display of one of the processors, for example processor 101-1. This user interface 114 can be menu driven software that permits the user to select the label format and define the label content as well as the number of labels to be produced by label generation apparatus. The data obtained through user interface 114 drives template generator 111 and indicia generator 112.

Detailed Description Text - DETX (39): The difficulty with the existing label generation systems is that these systems can either generate a vast quantity of identical labels or a number of differently identified labels according to a well defined and commonly used numbering scheme. None of the existing systems can generate arbitrarily varying indicia according to any predetermining ordering for printing on labels to individually identify each label without using permanent or semi-permanent printing masters. The label generation apparatus of the present

invention enables a user to define a label of arbitrary size, shape and characteristics, wherein each label in a series of labels includes unique indicia that individually identifies each label according to any predefined sequence in both human readable and machine readable form without using printing masters.

Detailed Description Text - DETX (40): The label generation apparatus includes the control structure illustrated in FIGS. 2 and 3 in flow diagram form. The control structure of FIGS. 2 and 3 consists of a plurality of software routines resident on processor 101-1 to 101-n. In order to better understand the operation of the control structure illustrated in FIGS. 2 and 3, the generation of a plurality of the label illustrated in FIG. 5 is described. A sheet of label media is used to produce a matrix of n times m of the labels of FIG. 5. This matrix arrangement is illustrated in FIG. 3 wherein one sheet of the label media containing N times M labels are illustrated. The process of label generation begins at step 200 on FIG. 2. Processor 101-1 prompts the user at the associated keyboard at step 201 to enter initializing information to identify the label format, i.e.-- the label of FIG. 5, as well as the initial value used for the indicia written on this label. The user at this step also inputs the final label value or the quantity of labels that are to be printed. It is assumed that there is a standard correspondence between the alphanumeric characters printed on the label and the color background printed in the indicia fields. If the user wishes to vary this standard correspondence, data can be entered at step 201 to redefine the correspondence in processor 101-1. Assume for the purpose of this description that the standard format and color/numeric correspondence is desired. At step 202, the user defines the starting x and y position coordinates of the label generation on the sheet of label media.

Detailed Description Text - DETX (45): Once the label is completed, processing advances to step 212 where processor 101-1 increments the label count, the horizontal position variable and the value of the label indicia. The label indicia can be numbered according to any predetermined ordering that is required by the user. This can be a sequential numbering, an ordered series, or correspondence to any input data file provided by the user. Thus, label count and label indicia value record are maintained separately by processor 101-1 since the label numbering may not be sequential and may not match the label count. Processor 101-1 must increment the label count at step 212 and generate the next label indicia value according to whatever predetermined ordering has been identified by the user. At step 213, processor 101-1 increments the horizontal position variable. At step 214, processor 101-1 compares the horizontal position variable with the defined maximum number of horizontal print positions for the particular sheet of label media to be printed. Thus, in the example of FIG. 8, a matrix of N times M labels are to be printed on the sheet of label media. For the purpose of illustration, the number of labels on a master block M.sub.1,1 of label media is five rows of twenty columns. Thus, at steps 213 and 214, the horizontal position count is incremented and compared with the delimiter of twenty to determine whether the entire row of twenty labels in the first block has been printed. If the entire row of twenty labels has not been printed, at step 214 processor returns control to step 204 where another label in the sequence of labels is generated. The processing of steps 204 to 214 continues until an entire row of twenty labels has been printed. At this point, processing advances to step 215 where the vertical position count is incremented and at step 216 compared with the maximum value (which for this case is five). Thus, steps 213 and 214 generate a row of twenty labels while steps 215 and 216 generate five rows of twenty labels.

US-PAT-NO: 5621864

DOCUMENT-IDENTIFIER: US 5621864 A

TITLE: Label generation apparatus

DATE-ISSUED: April 15, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Benade; Daniel A.	Lakewood	CO	N/A	N/A
Johnson; Mack E.	Arvada	CO	N/A	N/A

US-CL-CURRENT: 358/1.18, 715/500

**ABSTRACT:** The label generation apparatus of this invention enables the user to define a label of various sizes, shapes and characteristics, wherein each label in a series of labels includes unique indicia that individually identify each label according to any predefined sequence. These labels also contain template fields that vary according to the indicia printed thereon or any other predefined ordering. The label generation apparatus includes a template generation capability that enables the user to define a label format having one or more writable indicia fields. These one or more writable indicia fields can be used to provide each label with individual identifying indicia according to any predetermined sequence. The label generation apparatus also includes an indicia generation capability that produces the individual identification according to various characteristics that are specified by the user of this apparatus.

60 Claims, 19 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 10

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Detailed Description Text - DETX (16): The remaining elements on FIG. 1 consist of the control routines 111-114 that are loaded in each of processors 101-1 to 101-n. These control routines are used to construct the database or data file that is used to drive the printer to produce the labels desired by the user. These control routines include user interface 114 which is a routine to interface the label generation apparatus in user friendly fashion with the user at the keyboard and display of one of the processors, for example processor 101-1. This user interface 114 can be menu driven software that permits the user to select the label format and define the label content as well as the number of labels to be produced by label generation apparatus. The data obtained through user interface 114 drives template generator 111 and indicia generator 112.

Detailed Description Text - DETX (41): The difficulty with the existing label generation systems is that these systems can either generate a vast quantity of identical labels or a number of differently identified labels according to a well defined and commonly used numbering scheme. None of the existing systems can generate arbitrarily varying indicia according to any predetermining ordering for printing on labels to individually identify each label without using permanent or semi-permanent printing masters. The label generation apparatus of the present invention enables a user to define a label of various sizes, shapes and characteristics, wherein each label in a series of labels includes unique indicia that individually identify each label according to



any predefined sequence in both human readable and machine readable form without using printing masters.

Detailed Description Text - DETX (42): The label generation apparatus includes the control structure illustrated in FIGS. 2 and 3 in flow diagram form. The control structure of FIGS. 2 and 3 consists of a plurality of software routines resident on processor 101-1 to 101-n. In order to better understand the operation of the control structure illustrated in FIGS. 2 and 3, the generation of a plurality of the label illustrated in FIG. 5 is described. A sheet of label media is used to produce a matrix of n times m of the labels of FIG. 5. This matrix arrangement is illustrated in FIG. 3 wherein one sheet of the label media containing N times M labels are illustrated. The process of label generation begins at step 200 on FIG. 2. Processor 101-1 prompts the user at the associated keyboard at step 201 to enter initializing information to identify the label format, i.e.-- the label of FIG. 5, as well as the initial value used for the indicia written on this label. The user at this step also inputs the final label value or the quantity of labels that are to be printed. It is assumed that there is a standard correspondence between the alphanumeric characters printed on the label and the color background printed in the indicia fields. If the user wishes to vary this standard correspondence, data can be entered at step 201 to redefine the correspondence in processor 101-1. Assume for the purpose of this description that the standard format and color/numeric correspondence is desired. At step 202, the user defines the starting x and y position coordinates of the label generation on the sheet of label media.

Detailed Description Text - DETX (47): Once the label is completed, processing advances to step 212 where processor 101-1 increments the label count, the horizontal position variable and the value of the label indicia. The label indicia can be numbered according to any predetermined ordering that is required by the user. This can be a sequential numbering, an ordered series, or correspondence to any input data file provided by the user. Thus, label count and label indicia value record are maintained separately by processor 101-1 since the label numbering may not be sequential and may not match the label count. Processor 101-1 must increment the label count at step 212 and generate the next label indicia value according to whatever predetermined ordering has been identified by the user. At step 213, processor 101-1 increments the horizontal position variable. At step 214, processor 101-1 compares the horizontal position variable with the defined maximum number of horizontal print positions for the particular sheet of label media to be printed. Thus, in the example of FIG. 8, a matrix of N times M labels are to be printed on the sheet of label media. For the purpose of illustration, the number of labels on a master block M.sub.1,1 of label media is five rows of twenty columns. Thus, at steps 213 and 214, the horizontal position count is incremented and compared with the delimiter of twenty to determine whether the entire row of twenty labels in the first block has been printed. If the entire row of twenty labels has not been printed, at step 214 processor 101-1 returns control to step 204 where another label in the sequence of labels is generated. The processing of steps 204 to 214 continues until an entire row of twenty labels has been printed. At this point, processing advances to step 215 where the vertical position count is incremented and at step 216 compared with the maximum value (which for this case is five). Thus, steps 213 and 214 generate a row of twenty labels while steps 215 and 216 generate five rows of twenty labels.

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TITLE: Method and apparatus for printing bar coded labels in different languages

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INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Spain; Wanda Hudgins	Lawrenceville	GA	30044	N/A

US-CL-CURRENT: 235/432, 235/487 , 235/494 , 358/1.18

**ABSTRACT:** An apparatus for printing bar coded labels employs a computer that includes an actual keyboard having a plurality of keys and a video display and is programmed to run a bar code label design tool. The label design tool displays on a first portion of the video display a label image having dimensions corresponding to a preselected label type. The label design tool also generates and displays on the label image a bar code that encodes a preselected set of data. The bar code is generated according to a bar code standard selected from a plurality of bar code standards. The bar code label design tool also allows a user to enter text onto the label image. A key mapper displays on a second portion of the video display, different from the first portion, a keyboard image. The keyboard image includes images of letters, arranged in the way that they would appear on the actual keyboard. The letters are in a selected language font selectable from a plurality of language fonts and displayed on images of key locations that correspond to the keys of the actual keyboard. The key mapper is capable of controlling entry of text on the label image so that when a key on the actual keyboard, corresponding to a key location showing a letter in the selected language font, is depressed, the label image will include the letter in the selected language appearing on the corresponding key location. A printer prints the label image on a blank label.

20 Claims, 6 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 5

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Abstract Text - ABTX (1): An apparatus for printing bar coded labels employs a computer that includes an actual keyboard having a plurality of keys and a video display and is programmed to run a bar code label design tool. The label design tool displays on a first portion of the video display a label image having dimensions corresponding to a preselected label type. The label design tool also generates and displays on the label image a bar code that encodes a preselected set of data. The bar code is generated according to a bar code standard selected from a plurality of bar code standards. The bar code label design tool also allows a user to enter text onto the label image. A key mapper displays on a second portion of the video display, different from the first portion, a keyboard image. The keyboard image includes images of letters, arranged in the way that they would appear on the actual keyboard. The letters are in a selected language font selectable from a plurality of language fonts and displayed on images of key locations that correspond to the keys of the actual keyboard. The key mapper is capable of controlling entry of text on the label image so that when a key on the actual keyboard, corresponding to a key location showing a letter in the selected language font, is depressed, the label image will include the letter

in the selected language appearing on the corresponding key location. A printer prints the label image on a blank label.

Brief Summary Text - BSTX (15): The above-noted disadvantages of the prior art are overcome by the present invention, which in one aspect is an apparatus for printing bar coded labels, such as compliance labels. A computer, that includes an actual keyboard having a plurality of keys and a video monitor, or other video display, is programmed to run a bar code label design tool. The label design tool displays on a first portion of the video monitor a label image having dimensions corresponding to a preselected label type. The label design tool also that generates and displays on the label image a bar code that encodes a preselected set of data. The bar code is generated according to a bar code standard selected from a plurality of bar code standards. The bar code label design tool also allows a user to enter text onto the label image. A key mapper displays on a second portion of the video monitor, different from the first portion, a keyboard image. The keyboard image includes images of letters, arranged in the way that they would appear on the actual keyboard. The letters are in a selected language font selectable from a plurality of language fonts and displayed on images of key locations that correspond to the keys of the actual keyboard. The key mapper is capable of controlling entry of text on the label image so that when a key on the actual keyboard, corresponding to a key location showing a letter in the selected language font, is depressed, the label image will include the letter in the selected language appearing on the corresponding key location. A printer that is operationally coupled to the computer prints the label image on a blank label.

Brief Summary Text - BSTX (19): An advantage of the invention is that it allows for the design and printing of bar coded labels that include text in several different languages.

Detailed Description Text - DETX (9): As shown in FIG. 4, a flow chart 100 demonstrating the method of the invention starts with an entry 101 into the computer system disclosed above, which may include operating system and program initialization. The user selects a bar code standard 102 and enters data 104 to be encoded as a bar code. The user also selects placement of the bar code on the label image by dragging the bar code with a mouse, or other positioning tool. The user determines if more bar codes are to be entered 106 and enters additional bar codes if so. Otherwise, the user selects a language and corresponding language font 110 and enters text and positions the text on the label image. The user determines 114 if other text units are required and selects a second language font 116 and enters the second set of text 118, if necessary. Otherwise, if the label image is satisfactory, the user issues a print command 120 to print the bar code label. The user then may design other bar code labels or end 122 the session. It will be readily appreciated that the order in which bar code entry and text entry are executed may be switched without departing from the scope of the invention.

Claims Text - CLTX (20): 7. The apparatus of claim 5, wherein the means for displaying the bar code in a first preselected location comprises a computer running a bar code label design tool.